

Spitta (R. J.)

B R I E F
REMARKS ON CHOLERA:

BEING
THE RESULT OF OBSERVATIONS DURING THE TWO LAST
OUTBREAKS OF CHOLERA IN ENGLAND; AND AN ATTEMPT
TO ADVANCE A THEORY OF THAT DISEASE WHICH SHALL
LEAD TO A MORE CONSISTENT METHOD OF TREATMENT.

TO WHICH IS ADDED
A SHORT TABLE OF PRACTICAL RULES
FOR
GENERAL USE DURING AN EPIDEMIC.

By ROBERT J. SPITTA, M.D. LOND.

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JOHN CHURCHILL & SONS, NEW BURLINGTON STREET.
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BRIEF REMARKS ON THE NATURE AND TREATMENT OF CHOLERA.

I. In collecting the following brief remarks on Cholera, I disclaim at once all pretensions to a complete essay. To write a complete monograph, many more expositions both chymical and pathological must be given, and many disputed points argued. Such a course would be foreign to my present purpose; my sole desire being to open out the principal features of the disease, now that it seems to be advancing towards us, and to offer such explanations as shall lead to the adoption of a more satisfactory, because a less empirical, method of treatment.

The object of this paper is to advance such a theory of Cholera as shall be consistent with its treatment.

II. And first, the term Cholera as the name of the disease should be noticed. For the derivation of the word from *χολή*, bile, and *ῥέω*, to flow, might lead to the supposition that Cholera and Bilious diarrhoea

The meaning of the word Cholera is not in accordance with the nature of the disease.

were identical. But this is far from being true. Epidemic cholera is the result of a poison; and though bilious diarrhoea is one of its symptoms, yet it is by no means the most prominent; others, connected, as I shall venture hereafter to affirm, with the absorption of the poison into the blood, and its subsequent operation on the muscular and other contractile structures of the body, being much more characteristic. (§ viii.)

The Poison of Cholera is assumed to be an Organism in the air, and

III. What the Poison of Cholera is in itself, whether animal, vegetable, chymical, or electrical, has not been satisfactorily settled. Nor shall I discuss the question. I shall merely state that the probabilities are greatly in favour of some peculiar but hitherto inappreciable Organism permeating the atmosphere; which Organism, though contained in nearly harmless proportion in the air when freely circulating, is capable of germinating rapidly into deadly concentration in the air when stagnant, or when brought in contact with organic matter in a state of decomposition.

Its mode of Entrance into the system to be by the Food.

IV. Opinions, too, are at variance respecting the Entrance of the poison into the system. But I shall describe that method which to my mind is the most acceptable, viz.: that the poison is not inhaled like most organic poisons, but that it is introduced first into the Alimentary canal by the Food, liquid quite as much as solid, taken therein, and

that being thence absorbed, it is carried in the Blood to the rest of the body.*

V. Supposing, then, that these statements are received, there are obviously two Stages of the disease for consideration ; one in which the poison operates upon and irritates the alimentary canal, the other in which it is absorbed into the blood. These I shall denominate the Stages of Irritation and Absorption respectively, and proceed to investigate their symptoms.

Cholera has two Stages, the stage of Irritation and the stage of Absorption.

VI. THE SYMPTOMS OF THE STAGE OF IRRITATION ARE *sickness, spasms, or various other uneasy sensations in the stomach and bowels, together with bilious or rice-water evacuations, according to the amount of purging* ; all of which being dependent on the direct irritation of the alimentary canal by the poison, may and often do subside entirely after its expulsion in the evacuations. These are frequently called "*the Premonitory Symptoms*" of cholera. They may last several days, and ought by no means to be neglected, being amenable to treatment.†

The Symptoms of the stage of Irritation are commonly known as the Premonitory symptoms of cholera.

* Hence during an outbreak of Cholera the great importance of attending to the careful preparation of our food (see § xvii. b).

† It may be observed that I do not include collapse as a symptom of this stage of cholera. The reason is that I consider that symptom mainly due to the operation of the poison absorbed (see § viii.).

Cholera-fever is a feverish condition dependent on sub-acute inflammation of the alimentary canal.

VII. But should these symptoms continue, then what is termed *Cholera-fever* may be apprehended, about which it will be convenient at once to say a few words. This so-called Cholera-fever is by no means uniformly present. Nor is it a fever at all in the commonly accepted meaning of the term, for the poison of cholera does not ferment the blood. Strictly speaking, it is a feverish condition only, and dependent on sub-acute inflammation of the alimentary canal, which the irritating qualities of the poison may or may not produce. It is a condition much to be deprecated, and to the avoidance of which the sedative treatment recommended in this paper (§ xii. a) is particularly directed. When present, it is to be dealt with on general principles.

Symptoms of the Stage of Absorption are

VIII. THE LEADING SYMPTOMS OF THE STAGE OF ABSORPTION ARE FOUR IN NUMBER :—

1. Collapse.

1. *Collapse*, or shrinking of the body, characterised by a peculiar shrivelled appearance of the features, excessive feebleness of the pulse, and a marked blueness of the extremities; a condition depending partly on the continued loss of the fluids of the body during the first stage, but far more (as I am disposed to think) upon the extreme feebleness of the circulation consequent on the deleterious action of the poison which has been absorbed on the heart and other contractile tissues of the body.

2. *Cramp*, from the operation of the poison on the limbs and the voluntary muscles of other parts of the body. 2. Cramp.

3. *Peculiarity of the voice*, the muscular structures of the Larynx having been attacked. 3. Peculiarity of the voice.

4. *Retention of the bile and urine*, the poison absorbed having produced a constricted condition of the minute Biliary and Renal ducts. 4. Retention of bile and urine.

IX. Such, then, with a brevity pardonable in consideration of the practical object of this paper, are the principal symptoms of Cholera, the two stages of which, though not always separable, it will be extremely useful to bear in mind. We now advance to the Treatment, which will be arranged under three heads, the Regimenial, the Medicinal, and the Prophylactic or Preservative Treatment. The Treatment may be arranged under three heads, the Regimenial, the Medicinal, and the Prophylactic.

X. THE REGIMENTAL TREATMENT is the same in both stages. It comprises three essentials; 1. *The maintenance uninterruptedly of a perfectly recumbent posture*;* 2. *The application of warm counter-irritants* to the abdomen and to any other parts of the body which are cramped or painful; and lastly, *the* 1. The Regimenial treatment consists of Recumbency, Warmth, and Aqueous drinks.

* This is absolutely necessary. Recumbency alone may cure an attack, but no treatment whatever will be available without it. Many have sunk at stool merely from the alteration in posture. A sheet folded two or three times should be used, and removed whenever soiled, so that recumbency may be uninterruptedly maintained.

administration of a light farinaceous diet accompanied with copious supplies of unstimulating drinks. Water-arrowroot in small quantities, a wine glass-full every four hours, is the best, if any solid can be taken; and weak Beef Tea, but especially Cold Water, are the drinks most suitable. Given in small quantities at a time, the patient takes almost any amount of Water; and even if sickness continue, the stomach has something to contract upon, and so contracts with less pain; and the system will not fail to recover a certain portion at least of the fluid it has lost.*

It often cures of itself; a circumstance
 XI. Not unfrequently this simple regimen is all that is required. For during the stage of irritation if the poison pass away in the evacuations without inflaming the bowels, or during the stage of absorption, if it expend its virulence before the patient has become exhausted; in either case the system may and often has recovered itself without any medicinal aid, and the disease may be said to have terminated (if I may so speak) spontaneously.

which accounts for the favourable issues of opposite methods of treatment.
 And it is well to mention this natural termination of the disease to account for the successful issues of those diametrically opposite methods of treatment, which, without sufficient reference to the stages of the disorder, have been employed. Thus: Aperients and Astringents, Stimulants and Depletants, Acids

* Care must be taken that the water is pure (see § xvii. b.).

and Alkalies, Emetics and Sedatives, Sudorifics and Diuretics, Homœopathy and Allopathy, Hydropathy and Pantopathy, have all been extolled as curative; when, as I believe in many instances, Nature herself has unobtrusively managed the case and achieved the cure (notwithstanding the supposed co-operation of the remedies), with the assistance only of the regimenial treatment above indicated.

XII. THE MEDICINAL TREATMENT, though somewhat satirized by the preceding observations, is nevertheless of considerable importance, provided its limits are duly assigned. It differs in the two stages.

2. The Medicinal treatment consists

a. In the First Stage, the object is solely to allay the irritable state of the alimentary canal with a view to the avoidance of Inflammation. The remedy is *Opium*. It should be administered in small doses frequently repeated,—a sixth of a grain every half hour in the smallest possible pill—and discontinued lest internal congestions ensue, as soon as a decidedly soothing effect on the alimentary canal has been produced.

in the first stage of *Opium* in such small doses as not to cause congestions;

b. In the Stage of Absorption the symptom specially to be treated is Collapse. The others subside spontaneously. For this symptom there are three kinds of remedies—*Stimulants*, *Emetics*, and *Calomel*; each having its advocates, and each being useful according to the quality of the Collapse.

but in the second stage,

c. If the Collapse be sudden and excessive, in- Stimulants,

dicating an overwhelming impression of the poison on the whole system by a quick and immediate absorption ; if there be cold sweats, and the worst appear imminent, a *Strong Stimulant* may be useful. It may rouse the Heart for a time and even avert death ; but its danger is, that it almost always induces muco-entiritis, as from its irritating qualities might be expected. If, however, as very often happens, the collapse depend for the most part on hepatic obstruction caused by a constricted state of the biliary ducts, then either *Emetics* or *Calomel* are to be employed (§ viii., xiii., and xiv.).

Emetics,

d. *Of Emetics* I shall say but little. I hardly ever administer them, because vomiting is so constant a concomitant of collapse ; and also because, even when a favourable occasion presents itself for their exhibition, they are so much less manageable than calomel. If they *are* resorted to, they should be of that class called Stimulating Emetics, such as Mustard, Sulphate of Zinc, and the like ; these cause the liver suddenly to disgorge its Bile and sometimes relieve the collapse by promoting a greater freedom in the portal, and by consequence in the general circulation.

and Calomel
in such doses
as not to cause
salivation.

e. But the remedy above all others in the second stage of cholera is *Calomel*, if carefully and judiciously administered, so as not to salivate. Like opium, however, it must be given in very small,

though frequently repeated, doses; a grain every half-hour in the smallest possible pill;—and discontinued either on the abatement of sickness; (should sickness be a prominent feature of the attack); on the least increase in the power of the pulse; or on the slightest tinge of bile in the evacuations. Immediately the medicine has displayed these effects, or any of these effects, it should be abandoned. For just as too much opium, in the first stage, may cause undesirable congestion, so too much calomel, in the second, may produce most unwelcome salivation—two conditions to be equally and most sedulously avoided. And the calomel having been discontinued, no other medicine need be exhibited. The case may be left to the regimenial treatment above described ($\frac{1}{2}$ x.); and it will generally go on steadily to a cure, without any complication.

XIII. Probably it will now be expected that the *Operation of Calomel* should be explained. This, therefore, I shall attempt, taking great care to define beforehand the exact limits to which that operation is confined. I restrict the Operation of calomel to the hepatic organs only; and the theory is that it operates by relaxing the biliary ducts and exciting a flow of bile as when ordinarily exhibited; but that in so doing it relieves the hepatic circulation, and becomes curative. For the portal current having been restored, the general circulation is thus relieved

The Operation of Calomel explained

why? calomel irritates the duodenum

and prevented from being brought to such stagnation as to cause death. And so the cure may fairly be attributed to Calomel.

The Power
of Calomel re-
stricted.

XIV. But I must guard myself against overrating the remedial virtues of this powerful agent. If that collapse which, as I before observed (§ xii. d), is mainly sustained by hepatic obstruction have to be overcome, then Calomel will very probably, nay, almost invariably, succeed; but if the alleviation of any other symptom, such as purging, cramp, &c., have to be attempted, or even if that collapse attributable principally to feebleness of the heart, have to be combated; then calomel, if my theory of its operation be accepted, will be unavailable.

XV. The Medicinal treatment will now be dismissed with one additional remark, that, as the Two Stages of the disease may co-exist in the same case, so the two great remedies, Opium and Calomel, may sometimes be effectually administered at the same time. They may be given as a pill of the smallest possible size, composed of the two drugs intermixed.

3. The Prophylactic
treatment
may be de-
scribed in two
words, Clean-
liness and Re-
pose.

XVI. THE PROPHYLACTIC OR PRESERVATIVE TREATMENT may be comprised in two words—*Cleanliness and Repose*. For whatever may be our opinions concerning the inherent nature of the cholera-poison, if the disease it produces be as stated above (§ ii., iii., iv.), it easily follows that Cleanliness, by removing all decomposing matter which gives the poison its

deadly virulence, and Repose by fortifying the system against unexpected invasions, are the two real and sole Antidotes.

XVII. But *Cleanliness* to be efficient must be general. Cleanliness must be general.

a. Personal cleanliness should be attained by frequent ablution and change of linen. There must be Personal cleanliness,

b. Domestic cleanliness is to be cultivated, in the first place, by the careful examination and then the careful preparation of the food (§ iv.). All solids must be cooked before served, but fruits and vegetables especially should on no account be eaten raw. The Water for drinking, unless of undoubted purity should either be filtered through charcoal or boiled; and *Every article of diet*, whether solid or fluid, cooked or uncooked, should be strictly forbidden to remain in the sick room for fear of contamination. Domestic cleanliness, and

In the second place, *Domestic Cleanliness* should be forwarded by a free circulation of air throughout the house to prevent concentration of the poison (§ iii.); and lastly, it must be carried to perfection by the compulsory use of chloride of lime, or some disinfecting agent daily, in drains, sinks, and similar parts of every dwelling.

c. Sick-room cleanliness, too, is of the greatest importance, for by it the propagation of the disease is prevented; and it must be most determinately enjoined by vigorously enforcing the immediate and Sick-room cleanliness, to which should be added the

thorough removal of all that offends; the linen of the patient being put into boiling water, and all else into some chlorinous solution, as soon as leaving the room.

Parochial and National cleanliness of a deep sewerage.

d. Nor ought *Parochial*, not to say *National Cleanliness* to be omitted, which is only to be acquired by a well-arranged and deep Sewerage.*

Repose must be general also, both of Body and Mind.

XVIII. And whilst the virulence of the poison is so greatly diminished by cleanliness, the susceptibility of the system to its invasion should be lessened by *Repose*. Excitement in every form should be avoided. Temperance, not in diet only, but in all the pursuits of life, should be cultivated. Regularity in sleep as well as rest after muscular exertion should be obtained; and finally, the Mind, which exercises so strong an influence over the Body, should be exhorted to repose in firm assurance on HIM who governs all things; WHO gives reason to direct us when we ask, and WHO never fails the faithful.

* Since the last invasion, shortly after which this paper was written, the new metropolitan drainagè has done much, and will, I trust, have a great effect in diminishing the virulence of a future attack.

CHOLERA.

A SHORT TABLE OF PRACTICAL RULES FOR GENERAL USE DURING AN EPIDEMIC.

- 1.—All Water for drinking, unless of undoubted purity, to be boiled or filtered.
- 2.—All Food to be cooked before eaten, particularly fruit and vegetables.
- 3.—Great Fatigue and all Extra Excitement to be avoided.
- 4.—All Bad Smells to be overpowered by chloride of lime, or some disinfecting agent.
- 5.—All Windows and Doors to be frequently and freely opened.
- 6.—The least Diarrhoea, or even Pain in the bowels, to have immediate attention.
- 7.—During an attack no articles of food to be left in the bedroom of the patient.
- 8.—And every thing offensive to be immediately removed therefrom; Linen being put *at once* into Hot water. and all else into some Disinfecting solution.





